

EXERCISE AND STRETCHING POLE AND METHOD OF USING SAME

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5 This application claims the benefit to U.S. Provisional Application No.
60/236,658 filed September 29, 2000 and U.S. Provisional Application No.
60/271,522 filed February 26, 2001, both of which are hereby incorporated by
reference.

10 FIELD OF THE INVENTION

 The present invention relates to exercise and stretching equipment and
methods of using the same. More particularly, the invention relates to a pole or rod
like device and its use for stretching.

15 BACKGROUND OF THE INVENTION

 The benefits of stretching and strengthening muscles, particularly in sports,
are well known. In baseball, for example, batters routinely swing a bat with added
20 weight while on deck awaiting their turn at bat. Pitchers stretch and warm up by
throwing many balls prior to facing the batters. Runners and swimmers likewise
warm up with various stretching exercises before competing, as do football and
basketball players.

25 Players in golf also benefit from stretching and warming up before play. In
addition to a player's strength, flexibility may also affect his or her ability to drive a
golf ball far. One theory is that the bigger the shoulder turns during the swing
motion, the farther the player can drive the ball. Another theory holds that the
longest hitters do not necessarily have the biggest shoulder turns, but rather have

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the widest gap, called the X-Factor, between the turning of the hips and shoulders at the top of the swing. Under this theory, the wider the gap, the farther the player can hit the ball.

5 A more recent theory holds that the X-Factor is not as important as the X-Factor Stretch - the gap between the hips and shoulders as the club starts down toward the ball. See P. Cheetham, P. Martin, R. Mottram, B. St. Laurent, *Second Prize: The X-Factor Stretch*, Golf Magazine, March 2001, at 98. At the beginning of the downswing, the hips start rotating before the shoulders finish turning back.
10 Furthermore, the hips rotate faster than the shoulders, increasing the hip-shoulder separation during the early part of the downswing. Increasing this gap is believed to increase the club head speed and add power to the swing for hitting the ball farther.

 There is currently known in the prior art a wide variety of training devices for
15 improving a player's swing. Such devices typically improve the swing by teaching the proper swing mechanics. Such devices, however, do not adequately address a player's flexibility and range of motion, particularly in view of the above theories. Thus, significant improvements to a player's swing, and in particular the ability to drive a golf ball far, are believed possible with better means for improving a player's
20 flexibility and range of motion. Improvements in other sports as well are believed possible with better means for improving a player's flexibility and range of motion. Moreover, in any sport, stretching and increased flexibility are believed to improve performance and lessen the likelihood of injury.

25 SUMMARY

 The present invention provides a novel device for stretching muscles and increasing flexibility, and novel methods for using the device. In broad terms, the device provides for an elongated rod member that can be gripped by the user. The
30 rod preferably includes a handle and a foot section for contacting the ground. One embodiment of the device is extendable, having at least two rod sections that are

displaceable relative to one another to change the length of the device. A lock allows the rod to be fixed at the desired length. This provides the advantage of a collapsible rod that is easy to carry and store, and which is readily extended to the desired length for use. Other preferable features include a tapered handle to help the user maintain his or her grip during use, and indicia located on the rod for aiding in the use of the rod.

A preferred series of methods for using the device according to the invention has the user completing various motions with the device to stretch and increase flexibility. Many of the methods benefit a user's swing motion such as that in golf. As stretching and increased flexibility of many muscle groups such as those of the arms, neck and back are believed to improve a swing motion, the inventive methods include various motions for stretching and increasing flexibility of many muscle groups. For example, the methods include a full swing stretch, a neck stretch, a back stretch, an arm stretch and an across chest stretch. For a golf swing, these stretches are believed capable of increasing a user's flexibility and thereby increasing the player's club head speed for hitting a golf ball farther. These same methods, and variations thereof, are also believed beneficial for a baseball swing, and other sport activities as well.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing summary, as well as the following detailed description will be better understood when read in conjunction with the figures attached hereto. For the purpose of illustrating the invention, there is shown in the drawings several embodiments. It is understood, however, that this invention is not limited to the precise arrangement and instrumentalities shown.

Referring now to the drawings in which numbers indicate corresponding elements throughout the several views:

Figure 1 is a front view of an embodiment of a stretching device in accordance with the present invention shown in a nonextended position;

Figure 1A is a front view of the device of FIG 1 shown in an extended position;

Figure 1B is a sectional view taken along line 1B-1B of Figure 1 and showing a lock mechanism;

Figure 1C is a sectional view taken along line 1C-1C of Figure 1B;

Figures 2, 2A, 2B and 2C are a series of illustrations showing the device of Figure 1 being used for a full swing stretch;

Figures 3, and 3A are a series of illustrations showing the device of Figure 1 being used for a neck stretch;

Figures 4, and 4A are a series of illustrations showing the device of Figure 1 being used for a back stretch;

Figures 5, and 5A are a series of illustrations showing the device of Figure 1 being used for an arm stretch; and

Figures 6 and 6A are a series of illustrations showing the device of Figure 1 being used for an across chest stretch.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

A particular embodiment of the invention will now be described in more detail. While this particular device is ideal for stretching exercises to improve a golf player's swing and his or her ability to drive a golf ball far, it also may be used in relation to other activities and sports.

Referring to Fig. 1, a stretching device 10 of the present invention includes an extendable elongated rod 12 having an upper end 14 and a lower end 16. The rod 12 includes a first hollow cylindrical section 18 having an inner diameter d_i (Fig. 1B) and a second cylindrical section 20 disposed axially within the first section 18 and having an outer diameter d_o smaller than the inner diameter d_i of the first section 18 to permit telescopic displacement of the second section 20 within the first section 18. The first and second sections 18, 20 of the rod 12 are preferably made of steel for strength, although any suitable material such as aluminum and plastics may be used.

The rod 12 is preferably expandable to a longitudinal length of at least 6' 6" to be useable by most people, and has a closed or nonextended length of 44". The outside diameter of the first section 18 is about 1 inch, the outer diameter of the second section 20 is about 7/8 inch. Smaller or larger rods 12 can be used, as well as sections of different cross sectional shapes and diameters.

Fixed at the upper end of the rod 12 is a hand grip 22. The grip 22 is preferably between about 18" and 22" in length and made of a foam rubber or other material that can be gripped readily by the user. The grip may have finger indentations or a rib like design as shown to improve the gripping. The grip can also be tapered from the top (smaller thickness or diameter) to the bottom of the grip (larger thickness or diameter) as shown to help the user maintain the grip of the device 10 while applying downward pressure on the device 10. Any alternative grip may be used.

Fixed to the rod 12 at the bottom end 16 of the rod 12 (on the second section 20), is a foot member 24 for contacting the ground when the device 10 is in use. The foot member 24 is formed preferably as a rubber knob which resists slipping against the ground. Other suitable types of foot materials and configurations that resist slipping can be used.

The first and second sections 18, 20 of the rod 12 can be selectively locked together to fix the position of the two sections relative to one another at the desired longitudinal length of rod 12. A lock 26 for fixing together the two sections 18, 20 can take on any suitable form. One type of locking mechanism 26 is illustrated in Figs 1B and 1C. This is similar to the type of lock mechanisms used in common extension poles for paint rollers sold in hardware stores. With such lock mechanisms, rotation of one of the sections 18, 20 of the rod 12 relative to the other locks the two sections 18, 20 to fix the length of the rod. Rotation of the sections in the opposite direction loosens or unlocks the sections 18, 20 so that the length can be adjusted again. The lock 26 includes a cylindrical collet 28 attached to a top end 30 of the second section 20 of the rod 12. The collet 28 has threads 32 to threadingly engage and rotate about a tapered threaded screw like member 34 fixed to the top end 30 of the second section 20. Ribs 36 on the collet 28 engage the inside wall of the first section 18 to help prevent the collet 28 from rotating with the rotation of the second section 20, and a stop member 38 prevents the collet 28 from detaching from the second section 20. It is seen that rotation of the second section 20 and the threaded member 34 therewith relative to the collet 28, depending on the direction of the rotation, can pull the collet 28 downward over the tapered threaded member 34 thereby spreading the collet 28 to make a friction lock with the inside wall 40 of the first section 18, or push the collet 28 upward to loosen the friction lock. A slotted opening 42 in the collet 28 allows the diameter of the collet 28 to be increased or decreased with rotation of the collet 28 relative to the tapered threaded member 34.

With reference to Figs 1 and 1A, located on the outer surface of the second section 20 of the rod 12 are indicia 44 for aiding the user in extending the device 10 to the desired length. The indicia 44 can be calibrated to indicate the length of the rod 12 in various extended positions (such as units of inches or centimeters), or act simply as a reference point to aid the user in extending the rod to the desired length (relative length). The outer surface of the lower section 20 may also be made capable of retaining markings, such as ink, to allow the user to make his or her own

markings thereon such as reference markings. Located on the outer surface of the first section 18 of the rod 12 are instructions for use. Here, the instructions include pictures 46 illustrating particular uses of the rod 12. Written instructions may also be included.

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The present device 10 as illustrated and described herein is believed to be in compliance with USGA Rule 14-3 and thus can be stored in a golf bag for carrying onto a golf course.

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Having described a preferred embodiment of the stretching device 10, methods of improving a golfer player's swing using such a device will now be described. These methods, however, are believed useful for other sports as well, and for all around physical conditioning.

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Full Swing Stretch

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With reference to Figures 2, 2A, 2B, and 2C, a full swing stretch is now described for a right-handed player 50. With particular reference to Fig 2, the golfer 50 assumes the position to address the ball, typically standing up straight with feet shoulder width apart and knees slightly flexed. The arms are extended fully straight out in front, back straight, the distance between the inside of the feet set apart approximately the width of the shoulders. With the device 10 in hand and preferably already extended to the desired length, the player 50 places the lower end 16 of the device 10 on the ground 52 in front of him or her. Preferably, at least for the initial use of the device 10, the lower end 16 is placed on the ground 52 in the approximate area 54 where a golf ball would be teed up. The device 10 is gripped with both hands (right-hand 56 and left-hand 58) along the grip 22 in a manner similar to that of gripping a golf club (as if the golf club were being held vertically with the head of the club at the top, i.e., right-hand 56 on top of left-hand 58 with thumbs on the top of the hands). The device 10 is gripped at a height preferably 1" to 2" above the player's head 60.

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With reference to Fig. 2A, the back swing is then begun in a manner similar to the swinging of a golf club. While maintaining the grip of the device 10 and the position of the lower end 16 on the ground 52, the golfer 50 rotates the upper body to the right, moving the hands to the full back swing position. The left arm 64 should remain fully extended through this motion, the right knee 66 kept inside the right foot 70, and the head 60 kept centered. This position can be held if desired, e.g., for about thirty (30) seconds to fully stretch the muscles.

To increase coil and turn, the player 50, while holding the back swing position, draws the lower end 16 of the pole close to his/her right foot 70 progressively. This position can also be held, e.g., thirty (30) seconds.

As another option, to maximize stretching, the player, while maintaining the back swing position, can drop to a sitting position slowly. See Fig. 2B. The player 50 should feel additional back stretching. This position can be held, e.g., thirty (30) seconds.

To complete the full swing stretch, the player can swing from the full back swing position as shown in Fig 2A to the finished down swing position as shown in Fig. 2C. The player 50 begins the down swing and continues to the finished position in a manner similar to the swinging of a golf club driver. The body is turned to the left, moving the right knee 66 toward the left knee 68, winding up in a completed swing position - the belt buckle 74 facing the target, right foot 70 up on toes, back straight, standing tall, right arm 62 kept straight, and with head 60 facing the target (where the user would want to drive the golf ball). The finished position can be held for a full stretch, e.g., thirty (30) seconds.

The device 10 can be moved back and forth between the full back swing and finished positions as many times as desired to stretch the muscles. The above movements can be modified as desired. For example, one could concentrate on the back swing, moving back and forth between the center position of Fig 2 and the full

back swing of Fig 2A. Likewise, the position on the ground of the lower end 16 of the device 10 can be moved as described above to concentrate on certain muscles. A left-handed player would reverse the movements discussed above.

5 The device 10 can be used to improve golf swings for various clubs. For example, the swing related to a five iron, which is a shorter club than a driver, requires a different stance than that of a driver. Accordingly, the golfer, assuming the proper stance for the 5 iron, can set the device 10 on the ground in a position where the ball would be teed up, and grip the device 10 at a position 1 to 2 inches
10 above the head. Because the head position for a 5 iron swing is lower than that of a driver swing, the device 10 can be extended to a smaller length than would be desirable for the driver swing.

15 A major benefit of the full swing stretch is the ability to increase the club head speed and thus the driving distance of the golf ball by improving the golfer's flexibility and swing arc. For example, the golfer can urge his or herself into the upper most top back swing position possible in an effort to stretch the muscles and increase the top of the back swing.

20 The full swing stretch as described above may be modified for use relating to other sports. For example, to improve a baseball swing, it may be beneficial to use the pole 10 in a similar manner as described above but with the lower end 16 positioned on the ground closer to the feet of the user.

25 Neck Stretch

 With reference to Figures 3 and 3A, a method of using the device 10 for stretching the neck and upper arm muscles is now described. With the device 10 fully extended, the player or user 50 stands up straight with feet 70, 72 shoulder width apart. The device 10 is placed on the side of the left foot 72 in line with the
30 shoulder 76. The right arm 62 is placed on the hip 80 and the pole device 10 gripped at shoulder height with the left arm 64. The left arm 64 is then straightened

and the head 60 tilted to the right (see Fig. 3A). This position may be held to maximize the stretch, e.g., thirty (30) seconds. The above method can be reversed to stretch the other side. This stretch is also believed to help increase club head speed, and thus driving distance, by stretching and increasing the flexibility of key muscles.

Back Stretch

With reference to Figures 4 and 4A, a method of stretching back muscles, which is also believed to help increase club head speed, is described. The device 10 is preferably lowered to chest height and the hands 56, 58 placed on top. The player 50 stands up straight with feet 70, 72 wider than shoulders and knees 66, 68 slightly flexed. The device 10 is held at arm's length away with the end 16 on the ground. Arms are held away (see Fig. 4).

The player then bends from the waist 78 and places his/her head 60 between its arms. Next, while maintaining the grip on the device 10, the player moves slowly to a sitting position (see Fig. 4A). This final position can be held, e.g., for thirty (30) seconds to maximize the stretch.

Arm Stretch

With reference to Figures 5 and 5A, a method of stretching arm and shoulder muscles, also believed to help increase club head speed, is described. With the device 10 fully extended a suitable length, the player 50 stands up straight with feet 70, 72 shoulder width apart and knees 66, 68 slightly flexed (see Fig. 5).

The device 10 is placed in the left-hand 58 about two (2) inches in front of the left foot 72, the right-hand 56 placed on the hip 80. The player 50 then rotates the left arm 64 behind him or her as far as possible as seen in Figure 5A. Shoulders should be kept square, chest forced out, and shoulders pulled back. This final position can be held, e.g., thirty (30) seconds to maximize the stretch. This can be repeated with the opposite arm.

Across Chest Stretch

A method of stretching various muscles in the shoulders and between the shoulders and back is now described with reference to Figures 6 and 6A. With the pole device 10 fully extended, the player 50 assumes a position standing straight up with feet 70, 72 shoulder width apart and knees 66, 68 flexed. The pole device 10 is placed in the left-hand 58 two (2) inches in front of the left foot 72, and the right-hand 56 placed on the hip 80 (see Fig. 6).

Next the left arm 64 is extended straight and swung across the body as shown in Figure 6A. The right-hand 56 is then placed palm down on the pole 10 waste high. With hips 80 kept square, the user 50 pulls back on the device 10 with the right-hand 56 and flexes the knees 66, 68 slightly. This final position can be held, e.g., thirty (30) seconds to maximize the stretch. This method can be reversed for the other side.

While particular embodiments of the invention are described herein, it is not intended to limit the invention to such disclosure and changes and modifications may be incorporated and embodied within the scope of the appended claims. Other embodiments, while not shown, are contemplated. For example, the two sections 18, 20 may have a spring between the two to allow the device to be compressible.